

## REMARKS

### § 102 Rejection

Claims 1-4 stand rejected by Seaton et al., U.S. patent 5,798,085 (hereafter “Seaton”). The rejection should be withdrawn because the position tracking features of claim 1 are not shown in Seaton.

Furthermore, the anticipation rejection is not proper in view of *Finisar Corporation v. the DirectTV Group, Inc.*, Docket No. 2007-1023, -1024, \_\_\_ F.3d \_\_\_ (Fed. Cir. April 18, 2008), copy enclosed for reference by the Examiner. The *Finisar* case holds that a disclosure of each element of a claim is not enough for anticipation, stating “this court has long held that “[a]nticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim.” *Id.*, slip op. at 19 (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)(emphasis in *Finisar* opinion)). The Examiner’s rejection is based on two completely different systems in Seaton and such systems are not arranged as in the claim.

As recited in claim 1, there are two tracking features which cooperate to keep track of the location of the carrier within the sample testing machine – 1) optical position tracking features which are formed in the carrier (part (a) of claim 1), and 2) “at least one carrier position tracking sensor placed along said path detecting the position tracking features on said carrier as said carrier is moved along said path” (part (c) of claim 1). These features are not shown in Seaton.

In particular, the Seaton patent discloses the use of stepper drive motors 48 which are coupled to a collar 40 via a belt. A paddle is mounted to the collar. In the system of the Seaton patent, the system keeps track of the position of the collar and paddle (and thus the

sample carrier “boat” 22 (Figures 1 and 2 of Seaton)) by counting “steps” of the stepper motor. Stepper motors are brushless motors which can divide a full rotation of the motor into a large number of angular steps, for example, 200 steps. Thus, the motor can be turned to a precise angle. For example, in the Seaton patent, a particular number of steps (motor rotation) can be converted to an amount of linear travel, e.g., count 300 steps and theoretically the sample “boat” of the Seaton patent will have moved to position for diluting, count another 50 steps and the “boat” will be in position for pipetting, etc. The system thus does not rely on an optical position tracking feature on the carrier, the position of which is detected by a sensor placed along the path of the carrier. Rather, in Seaton, positioning of the boat 22 is solely dependent on counting steps of the stepper motors 48 as the boat 22 is maneuvered along the four sides of the instrument.

Conversely, the present invention is considered a more reliable improvement over the Seaton patent in that it includes a positioning feature formed in the carrier itself and a sensor which detects the position of this feature directly. In the Seaton patent, the determination of actual position of the “boat” based on counts of steps of a stepper motor is in fact dependent on many factors, all of which must be precisely calibrated. In particular the system of Seaton requires a correct translation of “steps” into linear inches of travel, but this can be inaccurate due to play, expansion (stretching) or contraction of the belt which is driven by the motor; moreover manufacturing tolerances or wear in the size or shape of the collar, the paddle, and the molding of the sides of the boat where the paddle engages the boat can all effect the position of the boat when the system just counts motor steps. The present invention avoids all these potential sources of error by sensing the position of the position feature of the carrier *directly* by means of a sensor.

For the positioning feature of claim 1 the Examiner cites to the features of Seaton et al. of a distinct and totally unrelated transport system – - the transport system for moving the cards relative to the optical station for reading the wells of the cards. (see generally Figures 3-6B and col. 9 line 50 to col. 12 line 24). In the Seaton et al. patent, optical interrupt apertures (112) are formed in the cards in alignment with the wells of the card. As explained at the top of col. 21 and shown in Figure 23, a detector positioned on the opposite side of the card from the light source in the card transport system detects the light through the aperture in the card, and uses such detection to control movement of the card so that transmittance and fluorescence measurements can be made across the wells of the card as the card is rapidly moved back and forth across the reading detectors.

However, in combining the features of the card transport system with the carrier transport system, the Examiner is mixing apples and oranges. The features cited by the Examiner are not arranged as in the claims as required by the *Finisar* decision. The features of the card transport system (see generally Figures 3-6B and col. 9 line 52 et seq.) have nothing whatsoever to do with the movement of the carrier (boat 22 and cassette 26 combination of Figures 1 and 2) or knowing where in the instrument the carrier is located. The card transport system operates on the test sample cards after they have been removed from the carrier and loaded into the incubation station, and after the cards have been ejected out of the incubation station into the card transport system of Figure 3 of Seaton et al.

Accordingly, the Examiner's analysis of Seaton is incorrect and the card transport system features cited by the examiner do not in fact read on claim 1. For example, claim 1 recites:

a) a carrier holding test sample devices and having a plurality of optical position tracking features formed in said carrier;

There are no optical position tracking features in the carrier (boat and cassette) of Seaton et al. The optical position tracking feature (aperture) of Seaton et al. is in the test sample card, not the carrier.

As another example, claim 1 recites:

c) at least one carrier position tracking sensor placed along said path detecting the position tracking features on said carrier as said carrier is moved along said path.

In Seaton et al., the sensor of the card transport system (Figure 7) is not placed along the path of movement of the carrier, and does not detect any position tracking features of the carrier. Rather, the sensor is used to determine the position of the test sample card, not the carrier. See Figure 3, showing location of the optics module 804 of Figure 7.

Accordingly, the anticipation rejection of claims 1-3 and 20 is clearly in error under the *Finisar* case and should be withdrawn.

### **§ 103 Rejections**

The Examiner rejected claim 5 as obvious over Seaton et al. Applicants submit that the rejection should be withdrawn because Seaton et al. does not disclose or suggest the position tracking and optical sensor features of claim 1, as explained above.

Moreover, Seaton et al. teaches away from using replaceable wear strips in claim 5. In Seaton et al., the entire base pan 24 across which the boat 22 slides is made of a single piece of low friction material (e.g., Delrin or ultra high molecular weight plastic) and one would have no occasion for replacing a section of the base pan. Claim 5 contemplates replaceable

strips – i.e., only a strip of material is provided for providing a supporting surface of the carrier and the strip is replaceable. This is completely distinct and nonobvious from Seaton et al.

The Examiner rejected claim 4 as anticipated by or in the alternative obvious over Seaton et al. in view of Karl, 5,891,396.

As to anticipation, since claim 1 is not anticipated, claim 4 cannot be anticipated. Furthermore, as explained below, the drive systems of Karl and Seaton are different from that claimed in claim 4.

For one thing, Karl does not use a threaded shaft for shaft 42. Rather, the shaft 42 has a square cross-section (col. 7 lines 60-65). The paddle 38 simply slides along the shaft due to the motor 46 moving a belt 44. Furthermore, Karl does not have a servomotor driving a threaded shaft as claimed. In Karl, the motor drives a belt, not a threaded shaft. Nor does Karl disclose or suggest “a threaded member fixed with respect to said block receiving said threaded shaft between the first and second ends thereof.” Since these elements are not taught or suggested in the two references, the Examiner has not established a prima facie case of obviousness.

#### Double Patenting

The Examiner rejected the claims for obviousness-type doubled patenting over claim 1 of co-pending application serial no. 10/695,038. A terminal disclaimer over any patent

issuing from the '038 application is submitted herewith. This action should obviate the double patenting rejection.

### Conclusion

Applicant submits that the rejections should all be withdrawn and the case passed to issuance. Prompt and favorable action to that end is requested.

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### Certificate of mailing

The undersigned hereby certifies that the foregoing Amendment is being deposited as First Class Mail, postage prepaid, in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, PO Box 1450 Alexandria VA 22313-1450 on this 2<sup>nd</sup> day of July, 2008.

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